

Evaluating the Impacts of Forest Treatments



The First Five Years of the White Mountain Stewardship Project

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The Story



- **Building up to the Stewardship Contract**
 - Natural Resources Working Group: foundation for collaboration
 - Rodeo-Chediski Fire: social license
 - Apache-Sitgreaves first in nation to test 10-year stewardship contracting authority



The Story



- **Purposes of Contract**
 - Reduce fire risk and improve forest conditions
 - Government investment to help grow private-sector wood industry
 - Stimulate economic growth and jobs
 - Decrease cost of forest treatments



The Story



- **Monitoring**
 - Required Multi-Party Monitoring Board
 - Contract administration, economic and ecological impacts, and social support
- **Monitoring Plan Development**
 - 30 pages of monitoring ideas
 - Prioritize, with funding in mind
 - Resulting plan – refined vision with highest priorities

Five Year Report



- Monitoring data analyzed in Five Year Report
 - 2004-2009
- Report in final stages of preparation
- Due mid- to late-July
- Available on ASNF website after final publication

Current Contract Status

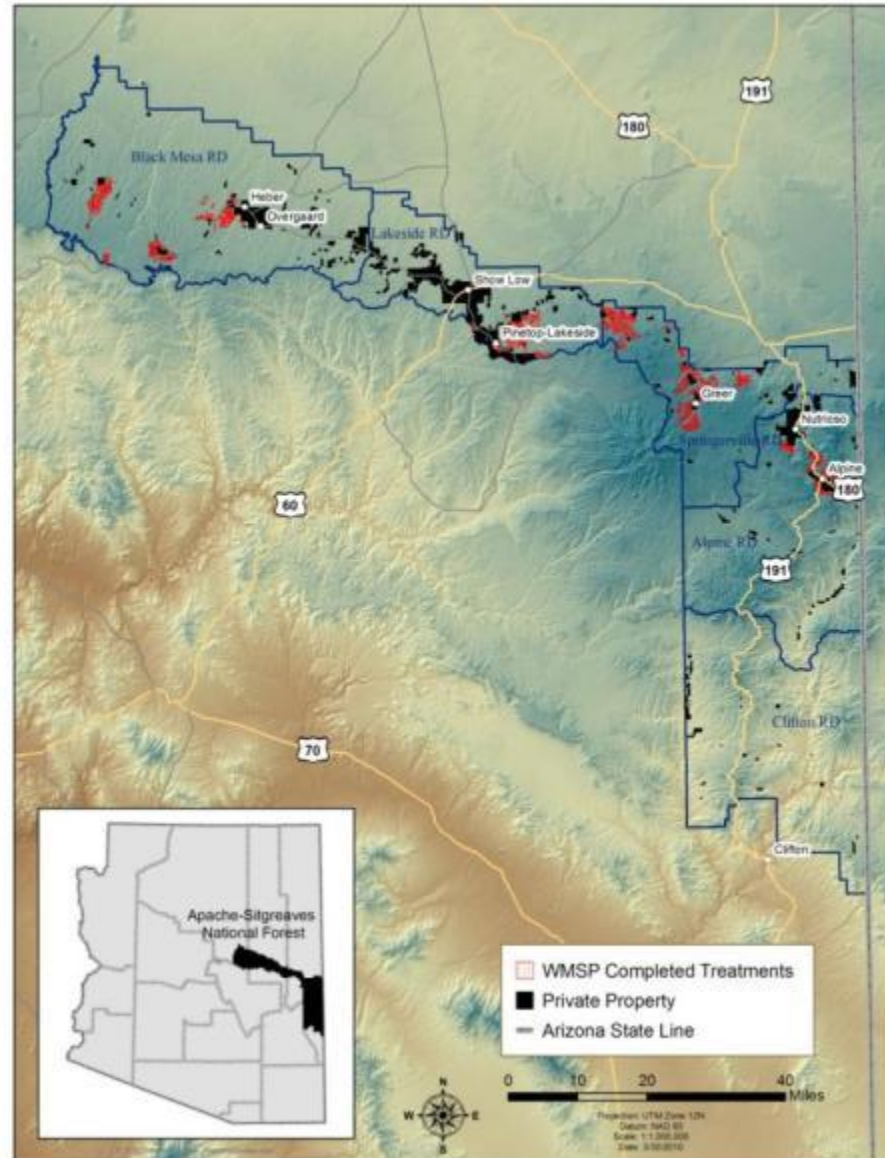
39,000 acres treated

Contract cost: \$30 million over 5 years:

- Contract payments
- Internal USFS planning, monitoring, contract oversight, and site preparation

Total revenue: \$40 million over 5 years:

- Business expenditures
- Jobs and related benefits
- Taxes generated



Products from the White Mountain Stewardship Project



Project wood fiber (predominantly ponderosa pine):

55% = 5 - 12" trees

4% = >12" trees

41% = residue / biomass

Removal of residue largest factor in ability to decrease costs

Primary products:

Pellets, pallets, moulding, animal bedding, soil mulch

Posts/poles, dimensional lumber

Electrical power generation

December 2009: Snowflake White Mountain Power signed 4-year contract to purchase residue from Sitgreaves treatments

Economic Impact, 2004 - 2008



Average: 319 jobs (226 direct, 93 indirect);
2008: 358 jobs

\$13.3 million in local business expenditures annually

\$600,000 annual taxes

20 businesses purchasing fiber

Contract minimum: 5,000 acres per year
Current annual demand: 15,000 acres per year

Economic Impact



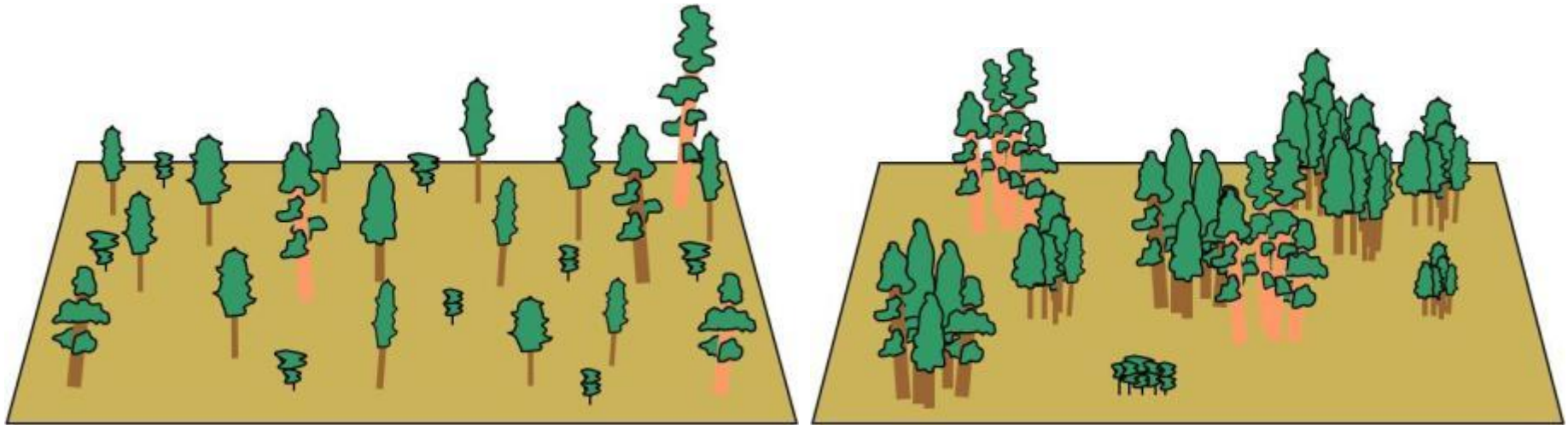
All during:
Global economic recession, where:

Housing starts are lowest in 50 years;
Diesel fuel prices are highest on record;
and

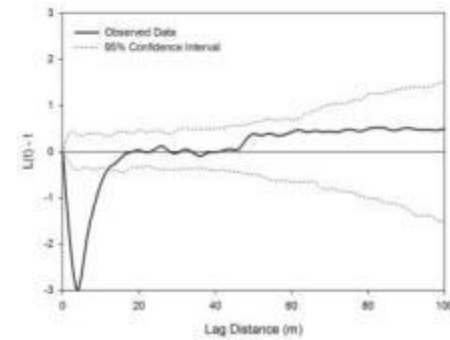
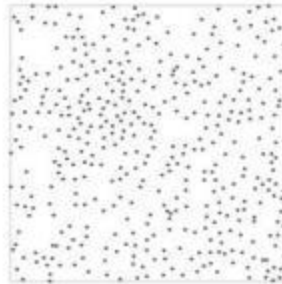
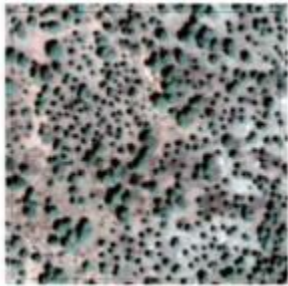
392,000 jobs lost nationally in wood products industry

The Project is meeting its economic objectives!

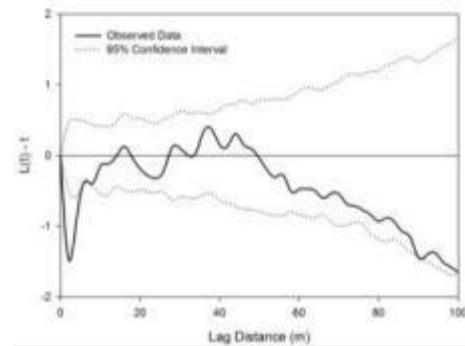
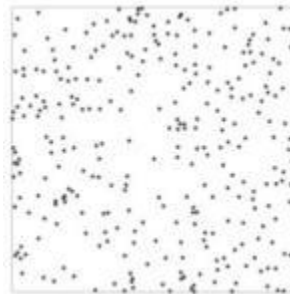
Ecological Impacts: Evolution in Treatments



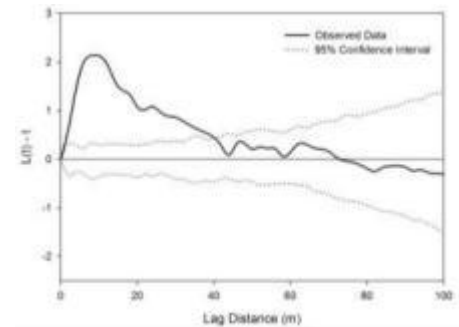
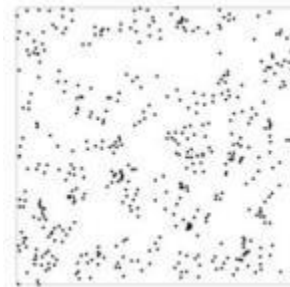
Mineral – Evenly spaced (21 ft)



Eagar South – Restoration-based



Eagar South – Restoration/Northern Goshawk Guidelines



Changes in Potential Fire Behavior

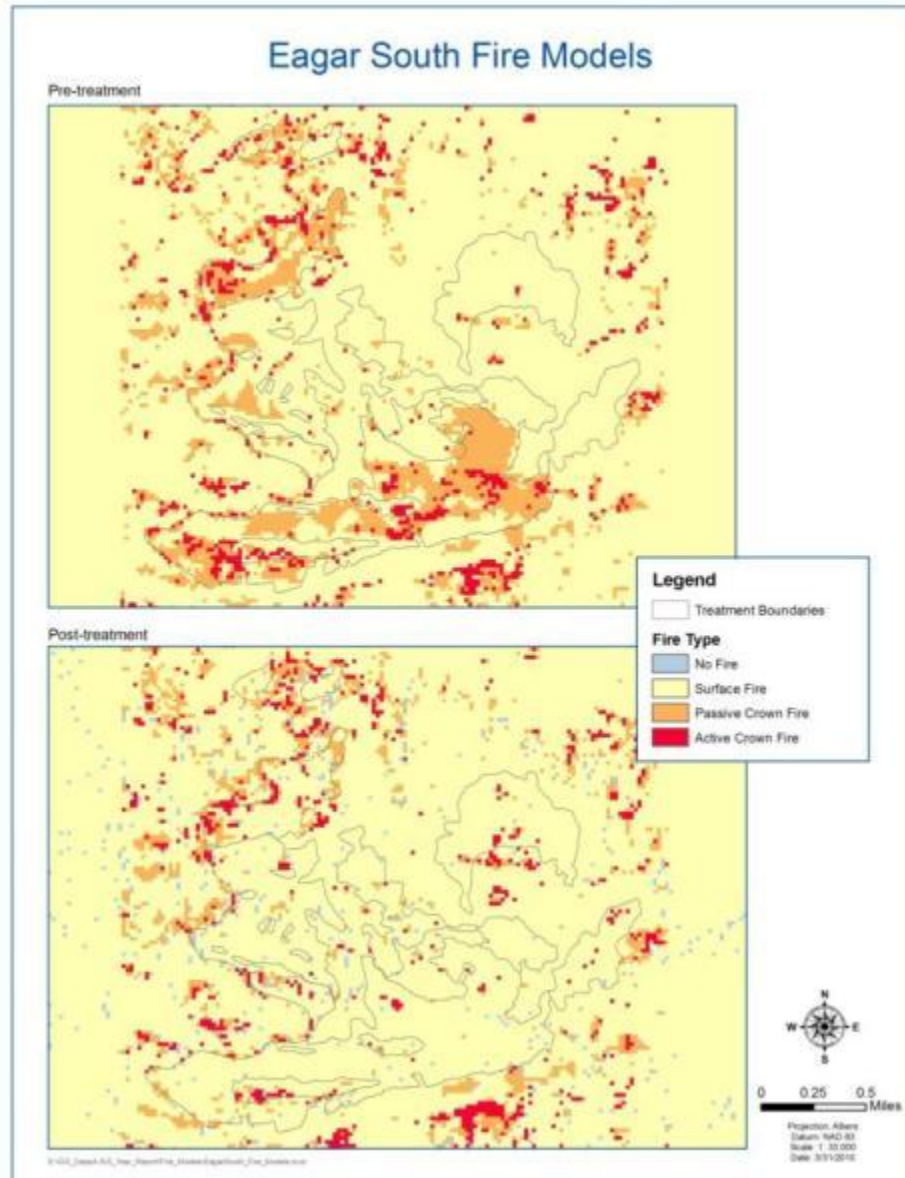
Models were run in
FlamMap

23 mph 20' windspeed

Average weather
conditions during the
Rodeo-Chediski fire

* * *

Wildlife projects CAN
meet fire & fuels
objectives

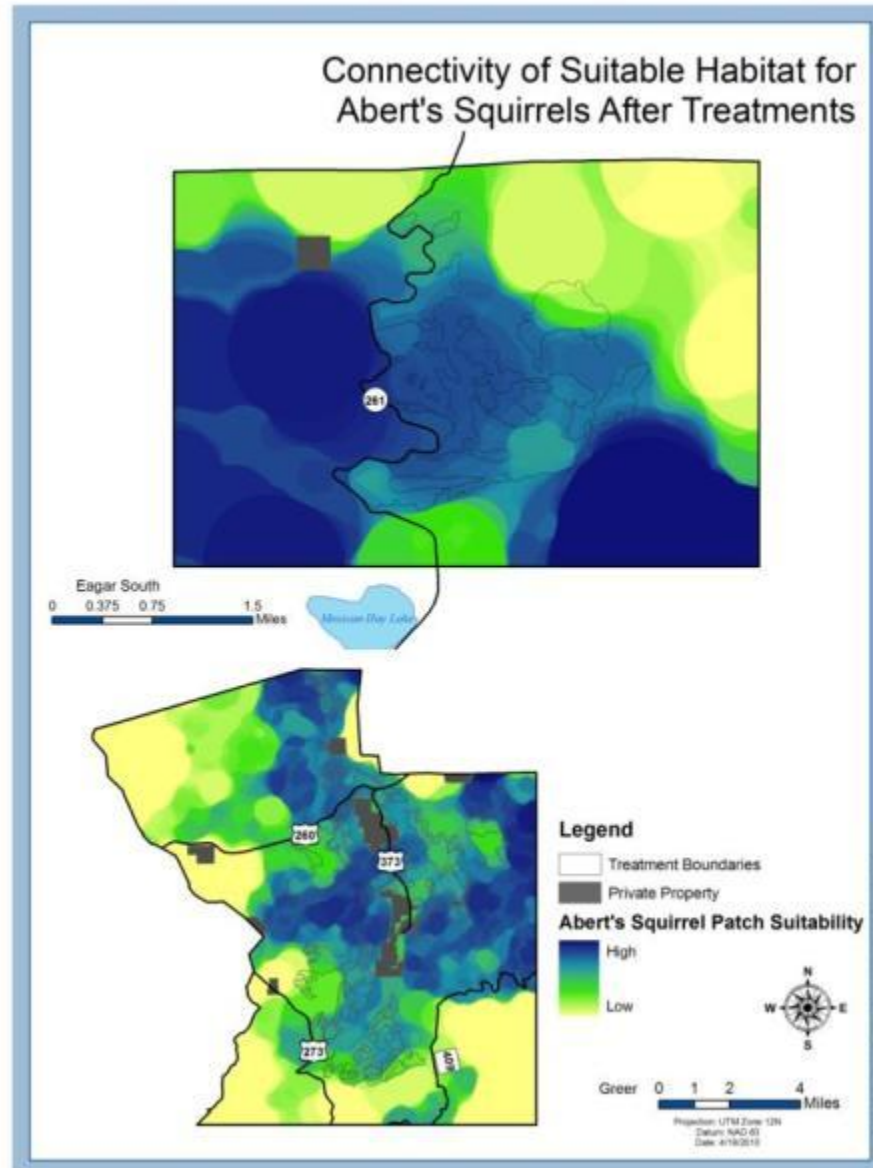


Wildlife Connectivity

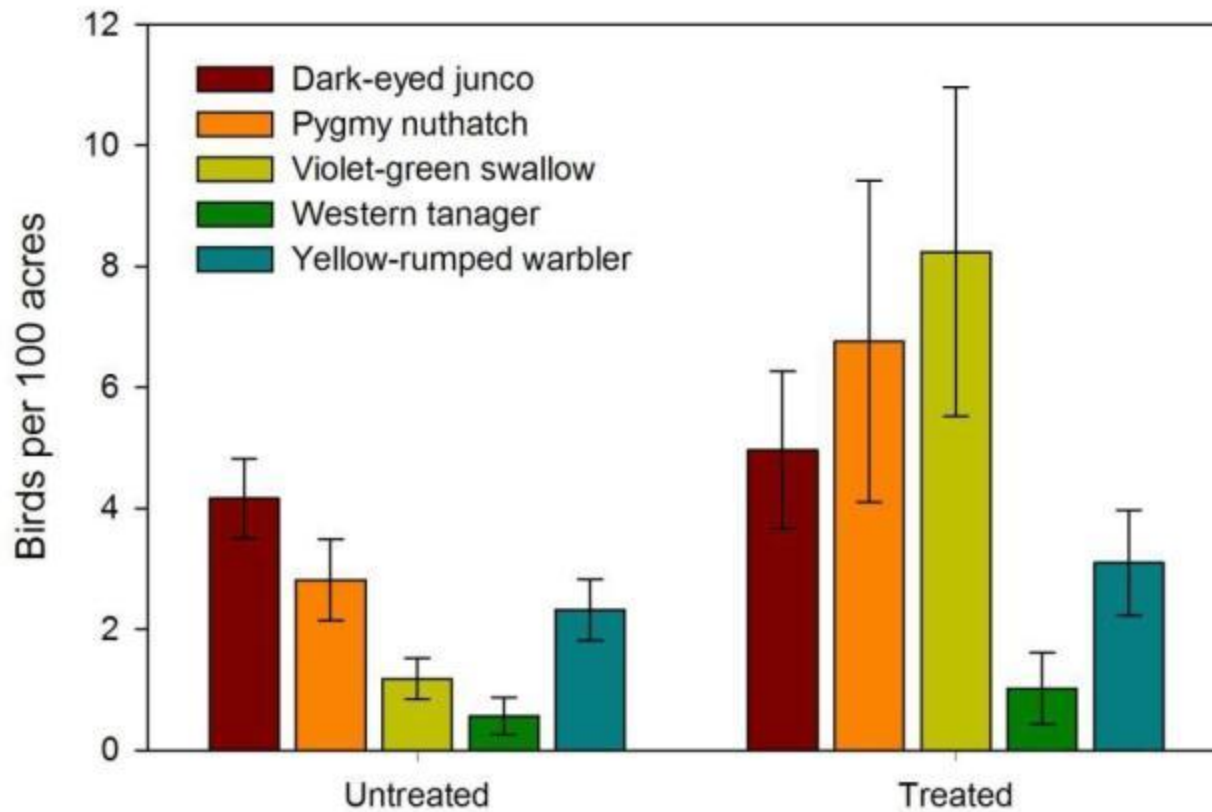
How do forest
treatments influence
wildlife habitat
connectivity?

Similarly.....

How do habitat
connectivity models
influence future forest
treatments?



Avian Community Changes



Other Structural Changes



Pre-Treatment



Post-Treatment





Back to the Drawing Board

What went wrong?

What went right?

How do we turn what went wrong into something right next time?



Where do we go from here?



- Revise monitoring plan
- Improve data collection and record-keeping
- Set quantitative goals
- Set trigger points for adaptive management
- Specialized sampling for targeted species
- Continue administrative and economic monitoring
- Expand social monitoring

Keeping the momentum: How can Governor's FHC help?

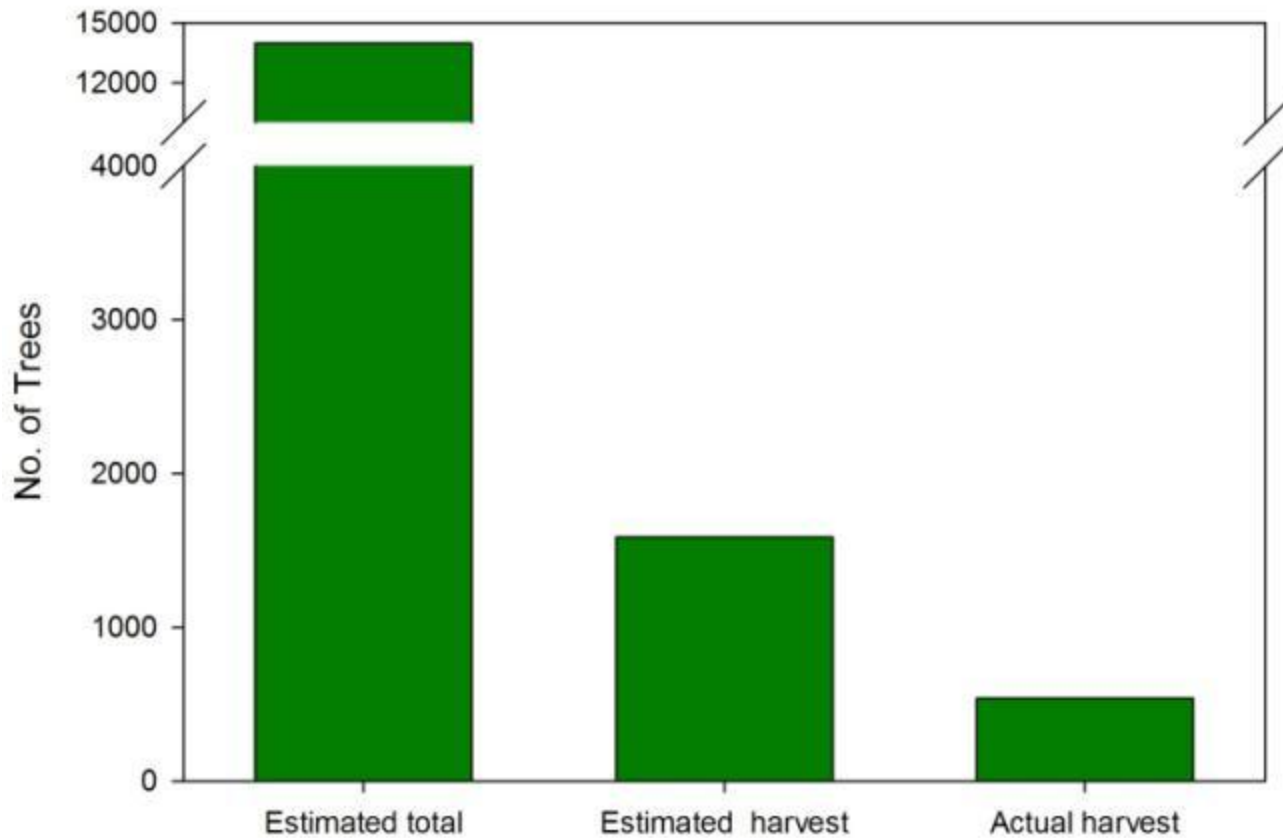


- **Contract minimum of 5,000 acres not enough for 15-20,000 acre demand**
- **Expanding funding by USFS means removing from other programs**
- **Maintaining only 5,000 acres:**
 - Loss of 250 jobs, 4 logging companies, 3 sawmills, and 24 MW powerplant
 - Potential effect on 4FRI?
- **Can FHC help create incentives for forest beneficiaries?**
 - Power companies, water users, recreationists
 - Look to other national examples (i.e. Denver Water Board; Santa Fe; New York)

Questions?

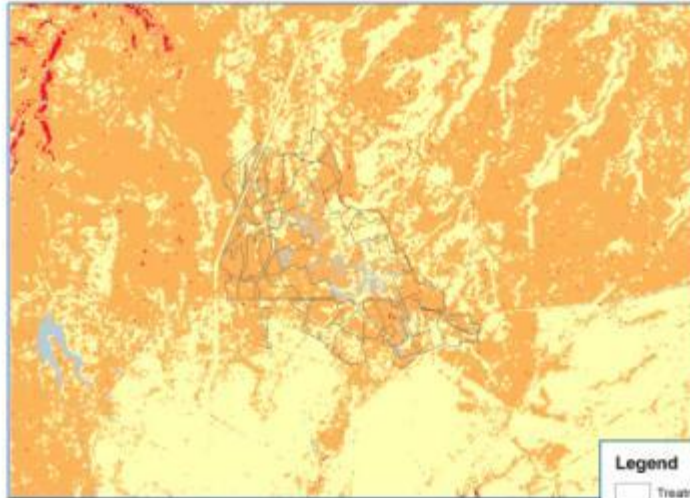


Eagar South Large Trees

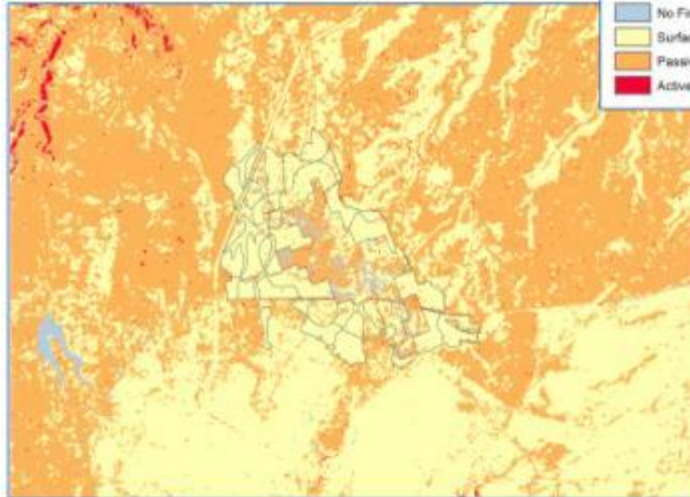


Forest Lakes Fire Models

Pre-treatment



Post-treatment

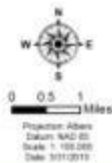


Legend

— Treatment Boundaries

Fire Type

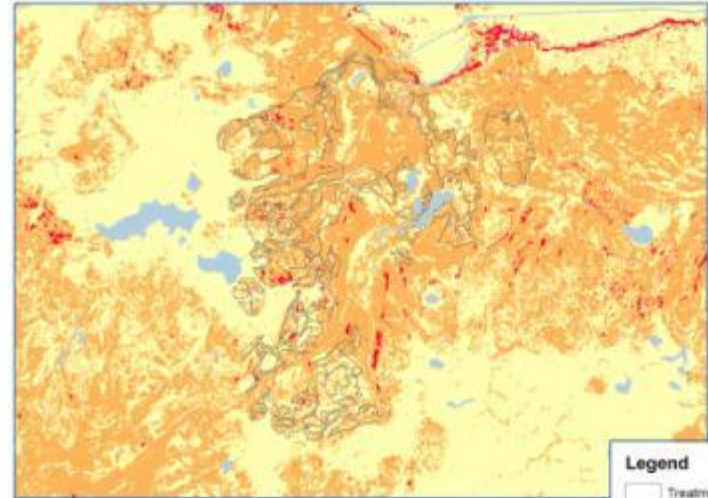
- No Fire
- Surface Fire
- Passive Crown Fire
- Active Crown Fire



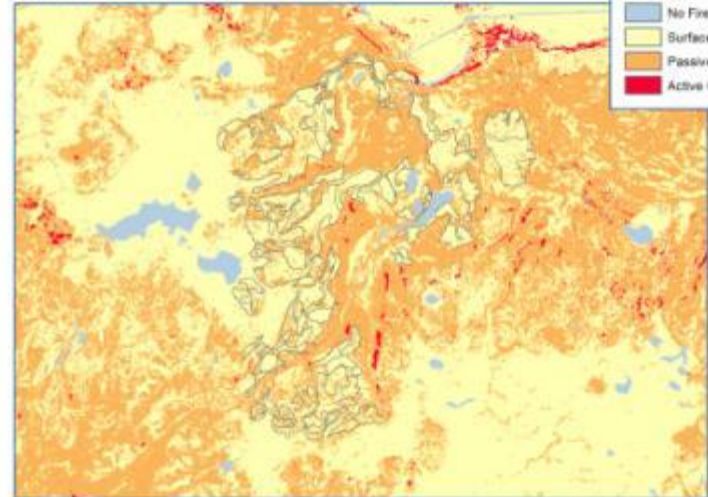
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Greer Fire Models

Pre-treatment



Post-treatment



Legend

— Treatment Boundaries

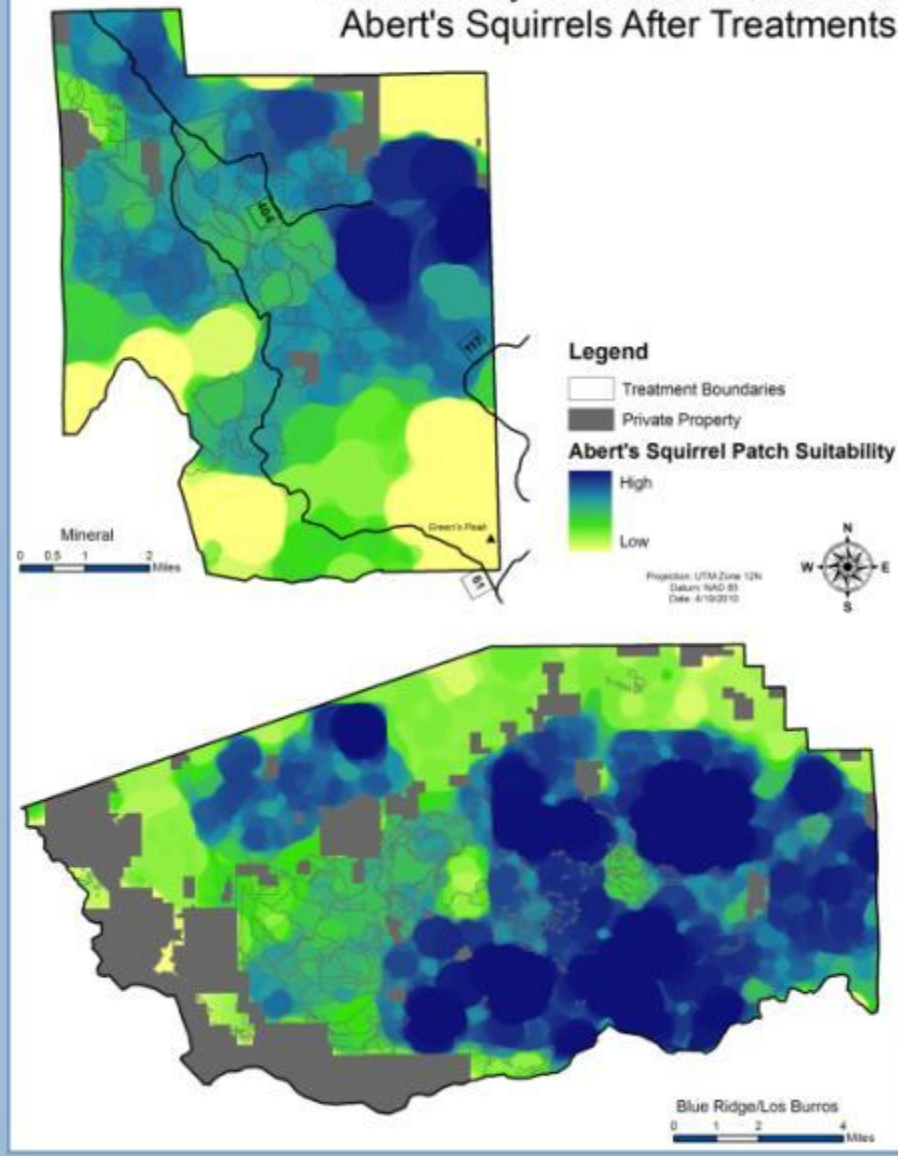
Fire Type

- No Fire
- Surface Fire
- Passive Crown Fire
- Active Crown Fire

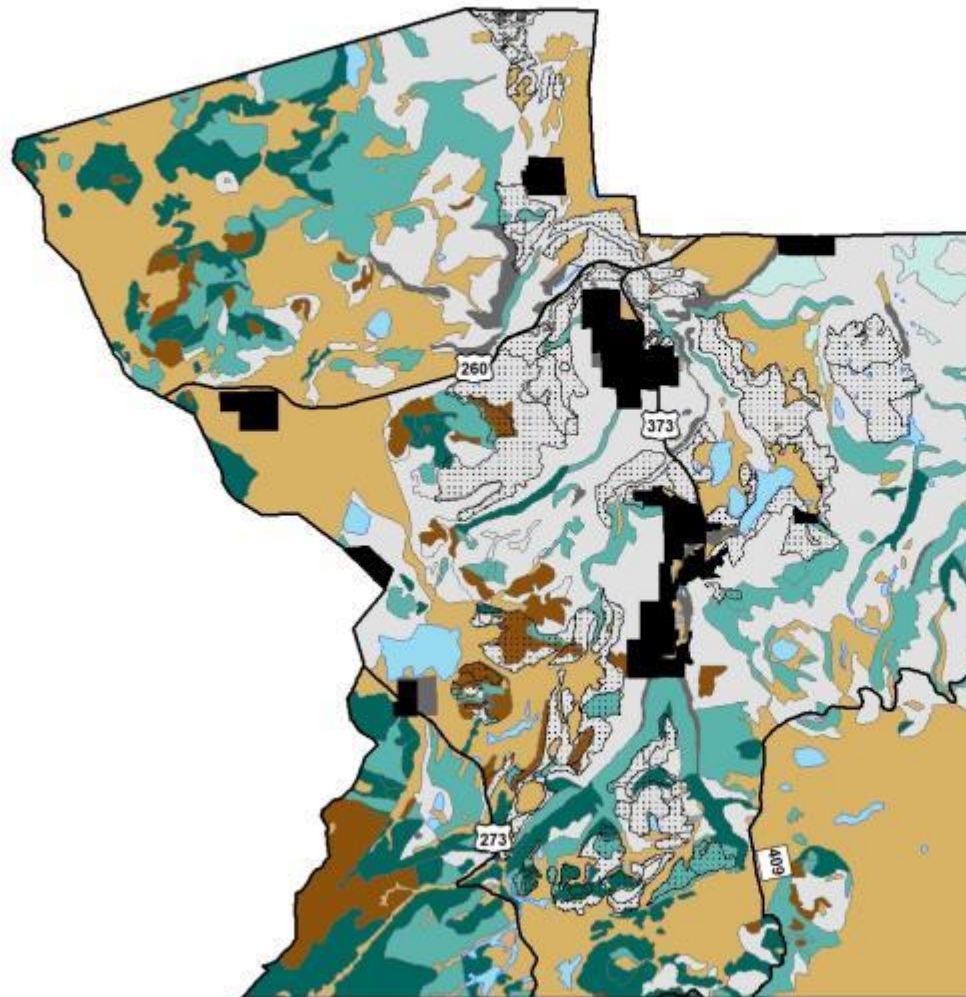


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Connectivity of Suitable Habitat for Abert's Squirrels After Treatments



Stand-level Vegetation Categories Identified at Greer



Apache-Sitgreaves National Forest



Legend

Greer Treatment Boundaries

Vegetation Type

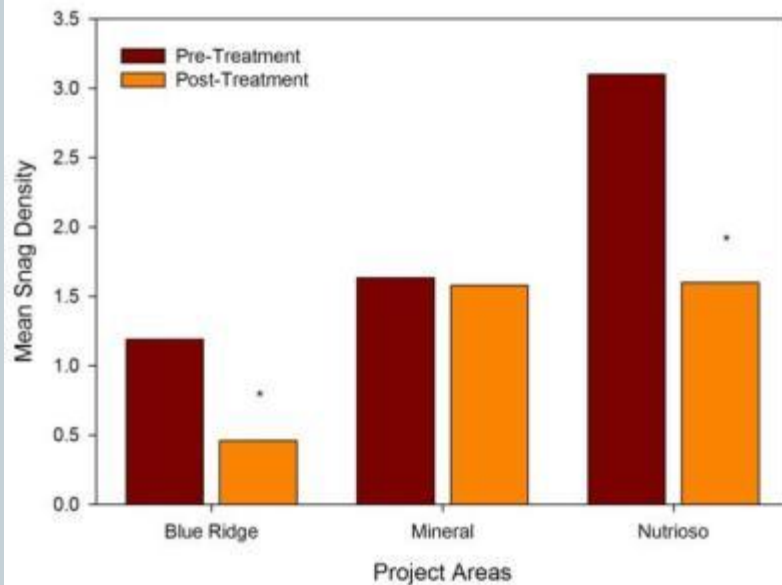
- Aspen
- Grassland
- Ponderosa Pine
- Pinyon-Juniper
- Mixed Conifer
- Spruce/Fir
- Lakes, Ponds & Marsh
- Other
- Private



0 0.5 1 2 Miles
 Projection: UTM Zone 12N
 Datum: NAD 83
 Scale: 1:125,000
 Date: 4/12/2010

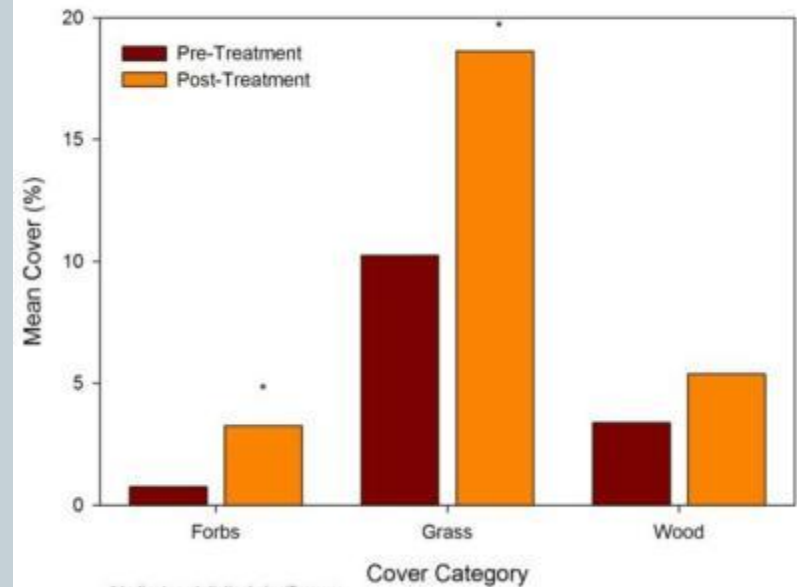
Other Structural Changes

Snags



* Indicates statistical significance

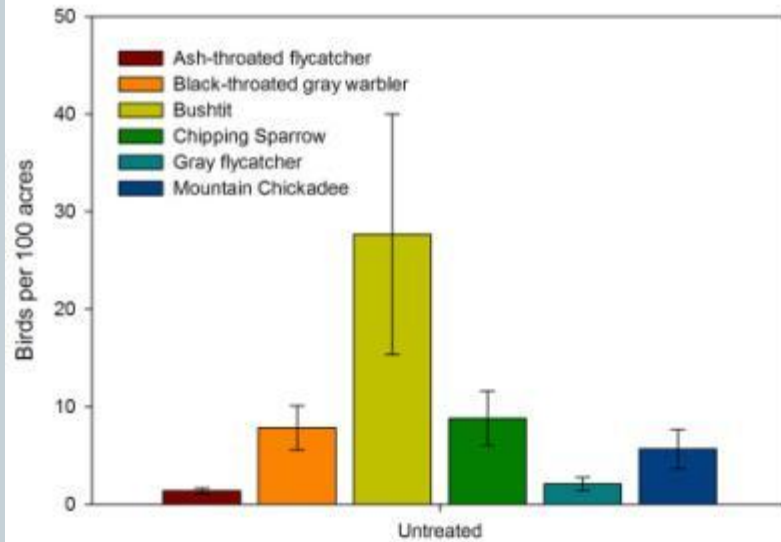
Understory Cover



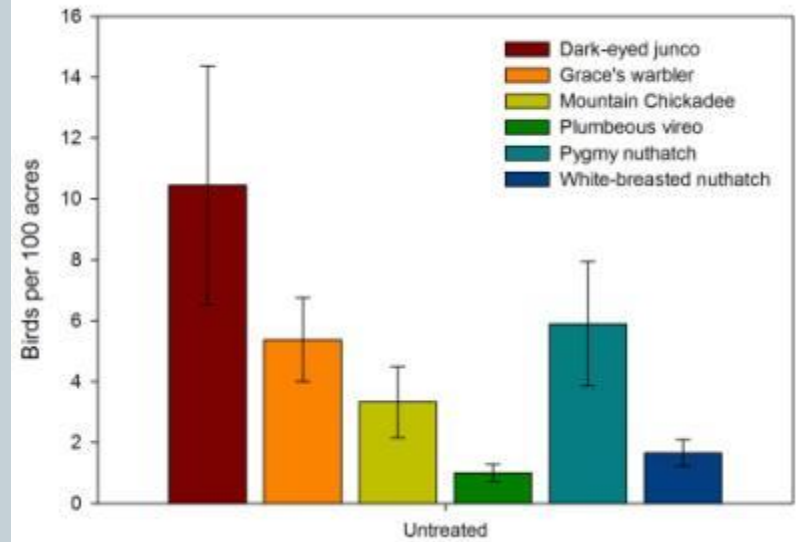
* Indicates statistical significance

Avian Community Baseline

Pinyon-Juniper

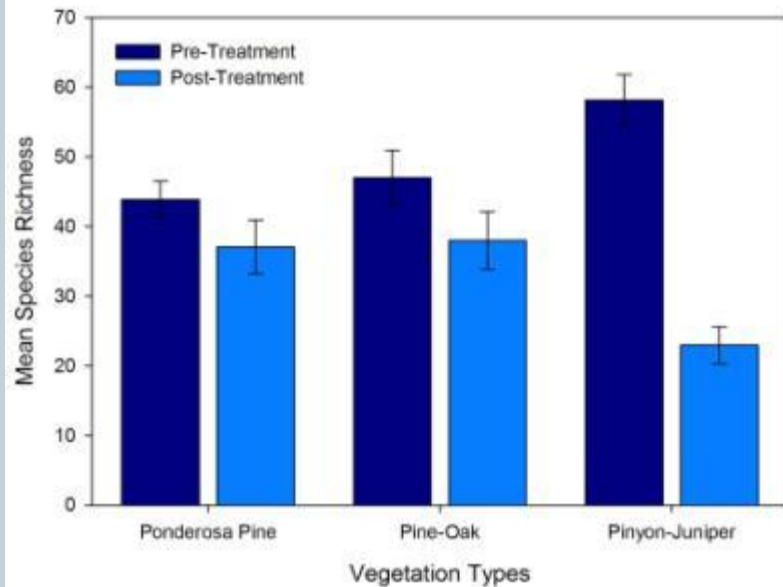


Pine-Oak

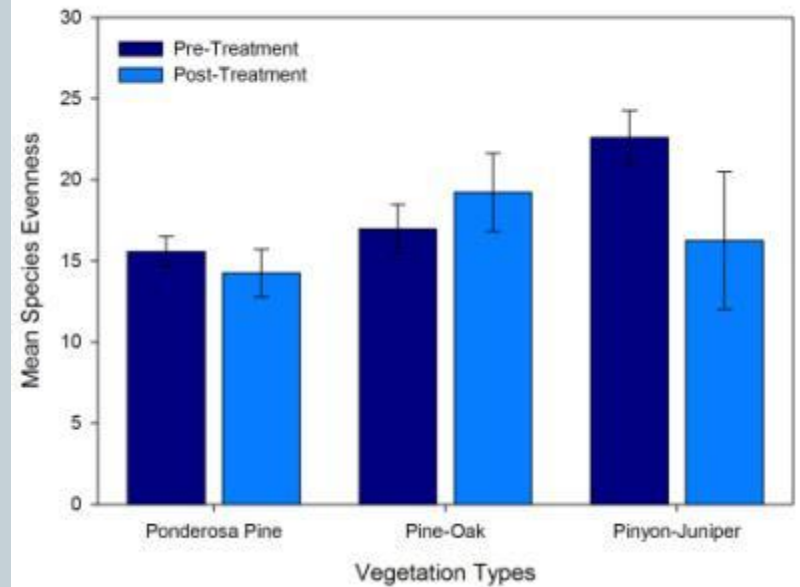


Avian diversity

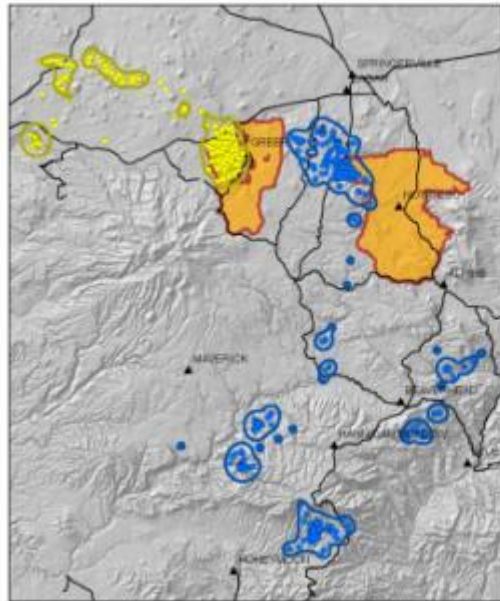
Species Richness



Species Evenness

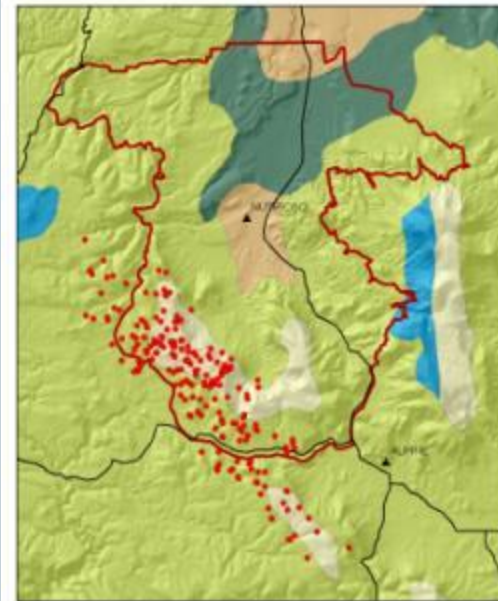


AGFD Bear Study



Bear locations in the White Mountain WUI Study Area

- Bear 22 Locations (Male)
- Bear 100 Locations (Female)
- 95% Kernel for Bear 22
- 95% Kernel for Bear 100
- WUI

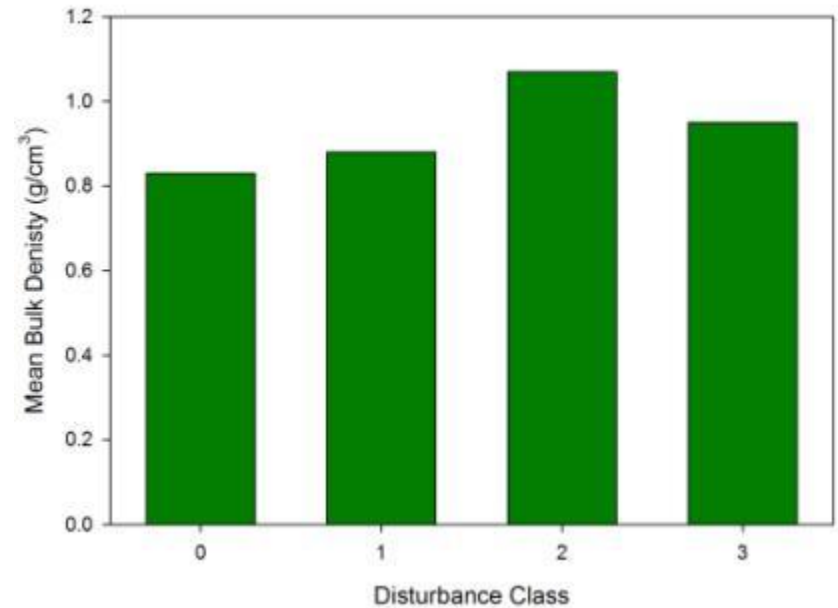
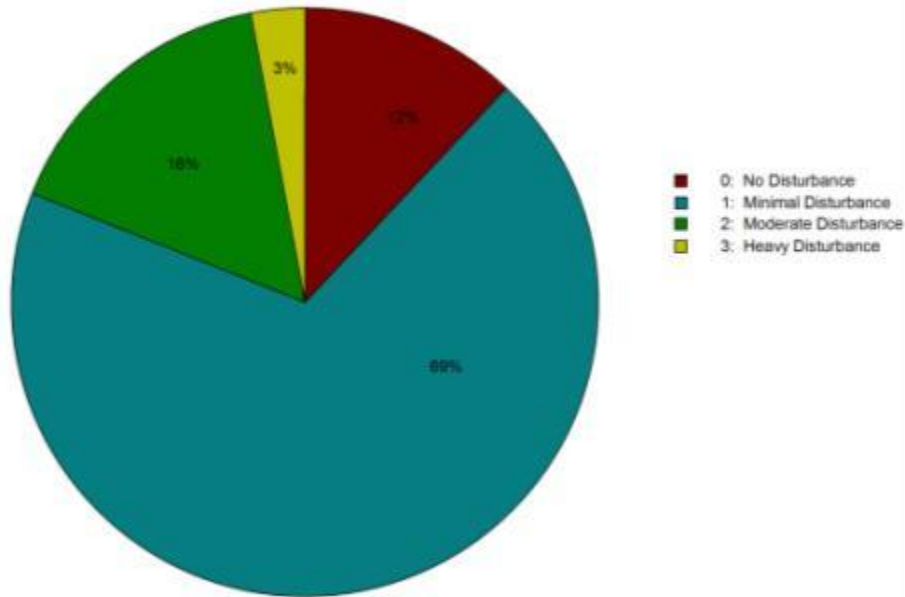


Vegetation in the White Mountain WUI Bear Study Area

- Brown Lowe and Puse (BLP)
Vegetation Classification
- PINYON JUNPER
 - PONDEROSA PINE
 - MIXED CONIFER
 - PLAINS AND GREAT BASIN GRASSLAND
 - SUBALPINE GRASSLAND
 - WUI
 - Bear 9 Locations

Soil Monitoring Results

Post-Treatment Soil Disturbance (2007)



Best Management Practices

